What is claimed is:

1. An optical communication system comprising an external cavity laser that comprises:

a gain medium comprising an active region, a beam expanding region, and an antireflective layer on a first surface of the gain medium;

an optical waveguide located adjacent the gain medium such that at least a portion of the electromagnetic energy generated by the active region passes through the beam expanding region and through the antireflective layer into the optical waveguide; and

a Bragg grating integral with or coupled to the optical waveguide,

wherein the medium and the optical waveguide exhibit a coupling efficiency of at least 40% with or without the presence of coupling optics located between the gain medium and the optical waveguide, and

wherein the laser is configured and operated to provide a multimode output of at least two modes.

2. The system of claim 1, wherein the coupling efficiency is at least ~~40%~~ 50% with or without the presence of coupling optics located between the gain medium and the optical waveguide.

3. The system of claim 1, wherein the gain medium comprises a cavity less than 1 cm in length.

4. The system of claim 1, wherein the length of the system is less than 100 km.

5. The system of claim 1, wherein the laser is operated by direct modulation.

6. The system of claim 1, wherein the bit error rate of the system is less than 10^{-9}.

7. The system of claim 6, wherein the bit error rate of the system is less than 10^{-12}.

8. The system of claim 1, wherein the laser is operated at 2.5 GHz or greater.

9. The system of claim 1, wherein the laser is operated in the absence of a temperature-compensating apparatus.

10. The system of claim 1, wherein the gain medium and optical waveguide are coupled in the absence of coupling optics.

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11. An optical communication system comprising an external cavity laser that comprises:

a gain medium comprising an active region, a beam expanding region, and an antireflective layer on a first surface of the gain medium;

an optical waveguide located adjacent the gain medium such that at least a portion of the electromagnetic energy generated by the active region passes through the beam expanding region and through the antireflective layer into the optical waveguide; and

a Bragg grating integral with or coupled to the optical waveguide,

wherein the medium and the optical waveguide exhibit a coupling efficiency of at least 40% in the absence of coupling optics located between the gain medium and the optical waveguide,

wherein the laser is configured and operated to provide a multimode output of at least two modes,

OK wherein the laser is operated by direct modulation,

OK wherein the laser is operated in the absence of a temperature-compensating apparatus,

OK wherein the gain medium comprises a cavity less than 1 cm in length, and

OK wherein the length of the system is less than 100 km.

12. The system of claim 11, wherein the coupling efficiency is at least 40% with or without the presence of coupling optics located between the gain medium and the optical waveguide.

13. The system of claim 11, wherein the bit error rate of the system is less than 10^{-9}.

14. The system of claim 13, wherein the bit error rate of the system is less than 10^{-12}.

15. The system of claim 13, wherein the laser is operated at 2.5 GHz or greater